



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,196	04/15/2002	Kinji Saijo	ASIJO=7	8572

1444 7590 07/23/2003

BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER

GEYER, SCOTT B

ART UNIT	PAPER NUMBER
----------	--------------

2829

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/009,196

Applicant(s)

SAIJO ET AL.

Examiner

Scott B. Geyer

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 6 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 16 June 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

New rejections for claims 1, 2 and 6 are presented below. As such, this office action is NON-FINAL.

Information Disclosure Statement

The references cited within the IDS submitted on 3-26-03 (paper no. 13) have been considered, except for document "AE" for which no copy was received.

Drawings

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on June 16, 2003 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Specification

The amendments to the specification submitted by the applicant on June 16, 2003 are acceptable.

Claim Objections

The amendments to the claims submitted by the applicant on June 16, 2003 are acceptable.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukutomi et al. (5,426,850).

As to **claim 1**, Fukutomi et al. teach a clad plate made of copper foil 10 and nickel foil 11, as shown in figure 1b. As to the language of claim 1, line 2, specifically “for use in a semiconductor device”, the applicant should note that this is merely ‘intended use’ language which cannot be relied upon to define over Fukutomi et al., since Fukutomi et al. discloses all of the claimed elements and the recited relationships. Moreover, the examiner will presume that the clad plate of Fukutomi et al. is capable of use in a semiconductor device since all of the claimed elements and the relationships therebetween are met by Fukutomi et al. (see also MPEP 2114). As to the language of claim 1, lines 2-4, specifically “manufactured by press-bonding... at a rolling reduction of 0.1% to 3%”, this limitation has not been given patentable weight, as the method limitation does not further define the structure, i.e. it does define over the clad plate of Fukutomi et al. since it is structurally identical (See also MPEP 2113).

As to **claim 2**, Fukutomi et al. teach a clad plate made of copper foil 10 and nickel foil 11, as shown in figure 1b. As to the language of claim 2, line 2, specifically “for use in a semiconductor device”, the applicant should note that this is merely ‘intended use’ language which cannot be relied upon to define over Fukutomi et al., since Fukutomi et al. discloses all of the claimed elements and the recited relationships. Moreover, the examiner will presume that the clad plate of Fukutomi et al. is capable of use in a semiconductor device since all of the claimed elements and the relationships therebetween are met by Fukutomi et al. (see also MPEP 2114). As to the language of

claim 2, lines 2-6, specifically “manufactured by press-bonding... at a rolling reduction of 0.1% to 3%”, this limitation has not been given patentable weight, as the method limitation does not further define the structure, i.e. it does define over the clad plate of Fukutomi et al. since it is structurally identical (See also MPEP 2113).

As to **claim 6**, Fukutomi et al. teach a clad plate made of copper foil 10 and nickel foil 11, as shown in figure 1b. As to the language of claim 6, lines 2-3 and 4-5, specifically “for use in a semiconductor device”, the applicant should note that this is merely ‘intended use’ language which cannot be relied upon to define over Fukutomi et al., since Fukutomi et al. discloses all of the claimed elements and the recited relationships. Moreover, the examiner will presume that the clad plate of Fukutomi et al. is capable of use in a semiconductor device since all of the claimed elements and the relationships therebetween are met by Fukutomi et al. (see also MPEP 2114). As to the language of claim 6, lines 3-9, specifically “is formed by previously applying an activating... glow discharge being 1/3 or less of the electrode B”, these limitations have not been given patentable weight, as the method limitation does not further define the structure, i.e. it does define over the clad plate of Fukutomi et al. since it is structurally identical (See also MPEP 2113).

Allowable Subject Matter

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record and to the examiner’s knowledge does not teach or render obvious, at least to the skilled artisan, the instant

invention regarding a clad plate consisting of five layers of metal, as copper/nickel/copper/nickel/copper. Claims 7 and 8 are dependent upon claim 3.

Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record and to the examiner's knowledge does not teach or render obvious, at least to the skilled artisan, the instant invention regarding a clad plate as defined in claims 1 or 2, wherein the clad plate has bumps and connected to a chip with anisotropic conductive adhesive. (Applicant should note that claim 4 is regarded as containing allowable subject matter based upon the device limitations present in the claim, and not the method limitations such as "etched selectively to form" and "columnar conductor formed by etching").

/

Claim 5 is allowed.

The following is a statement of reasons for the indication of allowable subject matter: as to independent *method* claim 5, the prior art of record and to the examiner's knowledge does not teach or render obvious, at least to the skilled artisan, the instant invention regarding a method of manufacturing an interposer comprising the steps of: laminating a copper foil together with either a nickel foil or nickel plating by press-bonding at a rolling reduction of 0.1% to 3%, selectively etching the interposer to form columnar conductors, forming an insulating layer on the copper foil to form a wiring layer and forming semiconductor chip connection bumps and the wiring layer to the clad plate opposite the surface with the columnar conductors.

Conclusion

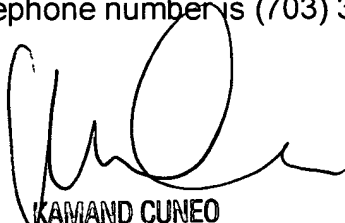
This office action is **NON-FINAL**.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott B. Geyer whose telephone number is (703) 306-5866. The examiner can normally be reached on weekdays, between 10:00am - 6:30pm. E-mail: scott.geyer@uspto.gov

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703) 308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

SBG
July 14, 2003



KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800